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ABSTRACT

This study, conducted at an urban research university, attempted to identify those conditions valuable in recruiting and subsequently retaining older (over 35 years of age) female doctoral students. The study used data from a Spring 1991 survey of all graduate students which solicited information about experiences, accomplishments, and growth attributable to the graduate experience. Seventy-nine percent of female doctoral students participated in the survey. Sample size for statistical tests varied from 257 to 309. The analysis compared the responses of women under 35 to those of women 35 and over in institutional choice, retention enhancement, and professional accomplishments. Findings indicated that: (1) older women choose an institution based on its ability to provide a desired credential, its location, the availability of a special degree program, and lower tuition rates; (2) older women spent 158 percent more time on non-university related activities than younger students; (3) younger women spent more time on scholarly activities and in research or teaching assistantship duties; and (4) older female students did not have more difficulty with the course work than younger women. Overall the paramount obstacles for older students were personal time constraints and responsibilities. A final section discusses implications for institutional recruitment and retention efforts. An appendix contains information on construction of scales. (Contains 29 references.) (JB)

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Female Doctoral Students: How Age Differentiates Institutional Choice, Retention Enhancement, and Scholarly Accomplishments

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Abstract: This study attempts to isolate the conditions valuable in recruiting and subsequently retaining older (over 35 years of age) female doctoral students. The findings include the prominence of location, lower tuition, and specialized degree programs. This study also indicates that older women face many personal obstacles to the degree process.

Female Doctoral Students: How Age Differentiates Institutional Choice, Retention Enhancement, and Scholarly Accomplishments

Women now earn over half of all bachelor's and master's degrees in the U.S. (National Center for Education Statistics, 1991). Furthermore, it is predicted that women will also be earning close to half of all earned doctoral degrees by 1995 (U.S. Bureau of the Census, 1991). This statistic is especially impressive when one considers that women earned only 13% of the doctorates in 1970 (U. S. Bureau of the Census, 1991). The patterns of female graduate enrollment differs from that of men. For instance, women tend to enter graduate school at a later age than their male counterparts (National Center for Education Statistics, 1991). For many women the delay to go to graduate school is necessitated by the constraints of marriage, the rearing of children, or other family-related responsibilities. The predicted increase in the number of female students, the predicted decrease in the number of traditionally aged students, plus the fact that significant numbers of women enter postsecondary education later in life, all combine to predict comparatively larger proportions of older female students in U.S. colleges and universities.

Although the literature is replete with comparisons of undergraduate female and male college students (e. g., Sax, 1992; DeRosa & Wilcox, 1989; Arnold, 1989; Berg & Ferber, 1983), and notices regarding the dwindling pool of traditionally aged students (Keller, 1983; Trow, 1988) there is sparse evidence about the specific issues regarding the older female population in graduate school. This study is in response to that deficiency as well as Baird's (1990) call for research on "alternative models of graduate...education on 'nontraditional' ...students who actually form the majority of advanced students" (pp. 386-387).

As earlier indicated, research dedicated to better understanding female students is abundant. Many of these studies attempted to understand females by comparing them to males. This study is taking an additional step forward. In order to understand older female doctoral students (a relatively unstudied group) it will compare them to a group that has

received more attention, traditionally aged female doctoral students. Three questions guided this study; (a) do older female doctoral students choose an institution based on the same criteria as their traditionally aged cohorts, (b) are traditional retention enhancement techniques valid with this group, and (c) once enrolled do older female graduate students enjoy the same success? The results of this study will be applied to recruitment and retention policy as it applies to these nontraditional doctoral students.

Review of the Literature

From an age perspective, graduate students aged 35 years and older are included under the "non-traditional" heading (Lunneborg et al, 1974; Casserly, 1982; Jacobs, 1989). Many people do not begin a graduate program immediately after the baccalaureate degree for many reasons including 1) the desire to first earn professional work experience, 2) financial inability, 3) family and/or spousal obligations, and 4) ambiguity concerning professional goals. Regardless of the reasons, it is clear that older people are enrolling in graduate programs in record numbers. The U.S. Bureau of the Census (1991) reports a 196.6% increase in the number of enrolled college students ages 35 and over from the time period of 1970 to 1989.

Institutional Choice

The research of Baird and Smart (1991) revealed three general student rationales for attending graduate school; 1) job related pursuits, 2) academic career oriented goals, and 3) pursuance of intrinsic interest. Once the decision to attend graduate school has been made, a choice of institution logically follows. Malaney (1984) established the importance of department reputation and availability of financial aid as generally important factors in institutional choice. However, additional research has indicated that recruitment policies of graduate students may need to be age, gender, and discipline specific (Malaney, 1984; 1988; Powers & Lehman, 1983). With respect to the recruitment of female students, research (Berg & Ferber, 1983; Malaney, 1988; Powers & Lehman 1983) has established the following; (a)

they tend to attend institutions with accessible financial aid, (b) institutional reputation plays less of a role in recruitment, c) they are more likely to attend institutions close to their homes, d) they are more likely to enroll for personal satisfaction, and e) they generally enroll in biological science or education programs. With respect to the recruitment of older students, research (Berg & Ferber, 1983; Malaney, 1988; Powers & Lehman 1983) indicates a) they tend to focus on the acquisition of a specific advanced degree and b) are more likely to enroll in education programs.

Enhancement of student retention

The enhancement of student retention includes both the elimination of blatant obstacles as well as the promotion of student satisfaction. Therefore, both obstacles and satisfactions were studied. A blatant obstacle frequently contended for this subpopulation is family and marriage responsibilities (Swift, Colvin, & Mills, 1987). Berg and Ferber (1983) have indicated that family issues may be a major reason why there are smaller numbers of female graduate student persisters.

Another area in which older and younger women may differ is the extent of their social integration with the graduate faculty. Interpersonal relations with faculty is one of the crucial links to the successful completion of the doctoral degree (Stoesz, 1989). Approximately one half of all doctoral students who fail to complete the process leave due to a poor relationship with their adviser or committee (Jacks et al, 1983). The quality, amount, and pattern of social integration between older students and faculty may differ from that between traditionally aged students and faculty.

In addition to faculty/student relationships, numerous studies have concluded that student/student relationships are also major contributors to perseverance in the degree program (Konner, 1987; Baird, 1990). However, the age of the student and the quality of peer relationships need to be more thoroughly investigated.

Although only about one half of all students who start doctoral study ultimately complete the degree, most students do not have problems with the coursework (Stoesz, 1989;

Girves & Wemmerus, 1988; Radin, Benbenishty, and Leon, 1982). The difficulty of coursework should be no more of an obstacle to the older student than to the younger because longitudinal studies have not demonstrated intellectual capacity declines with increased age (Lunneborg et al, 1974; Owens, 1966; Honzik & Macfarlane 1973; Showler and Droege, 1969).

In light of the present economic conditions, insufficient financial resources can be a major obstacle to the doctoral degree for a large number of students. An unfortunate truth is that gender and age play a role in the acquiring of financial aid. Although discrimination of any kind is prohibited in most areas, many fellowships continue to have age requirements, and/or full time requirements that eliminate many women. In addressing the subject of persistence at any educational level and any target population, the role of financial assistance should not be underestimated.

Accomplishments

In 1976, Katz and Hartnett defined the general conditions for the "optimal development of productive scholars and scientists. Among these conditions are cultivation of the imaginative capacity, encouragement of cooperative inquiry, discouragement of undue allegiance to a specific 'school of thought' and security of expectations" (p. 262). Grade point average should, therefore, not be used as a proxy for success because it cannot accurately measure the skills required of a productive scholar (Baird & Smart, 1991). Furthermore, the effect of grades on graduate success "disappears at the doctoral level" (Girves & Wemmerus, 1988 p. 184). For these reasons, this study measured accomplishments in terms of scholarly or artistic activities, the production of scholarly papers and proposals, as well as college teaching.

It has long been suspected that students holding either a teaching or research assistantship experience more success in graduate school (Baird, 1990; Dolph, 1983). Teaching assistants and research assistants are understandably more involved in their programs

and institution because they assume an active working role in the department (Girves & Wemmerus, 1988). These students have the unique opportunity to interact with faculty, and spend more time on the campus. Yet how are these assistantships awarded? If indeed, they offer oppportunity and invovlement are older women aware and provided with the same opportunities as their traditionally aged counterparts?

Research Procedures

Sample

The setting for this research is a large, urban, research oriented institution located in the Midwest. During the spring of 1991 a questionnaire designed to elicit information about experiences, accomplishments, and growth attributable to the graduate experience was distributed to all graduate students. All questions were an outgrowth of the extensive work of Pascarella and Terenzini (1991). This study focuses solely on the female respondents enrolled in doctoral level programs. The 79% response rate by female doctoral students provided a good representation. The sample size for each of the statistical tests varied from 257 to 309.

Variables

Institutional Choice

The survey asked students to rate the importance of 1) six factors in their general decision to attend graduate school and 2) ten factors in their specific decision to attend the host university. Respondents rated all factors on a Likert-type scale (1=not important to 4=very important). A factor analysis of these items resulted in two factors with strong internal consistency; one measuring the importance of credentialing, and the second measuring the importance of the university's reputation. The items comprising these summed scales and their internal consistency reliabilities are given in the Appendix. Five individual questions addressing the following areas provided further insight: 1) importance of location, 2) availability of a special degree program, 3) internship opportunities, 4) low tuition, and 5) availability of financial assistance.

Enhancement of Student Retention

Enhancements to student retention are divided into two classifications representing 1) perceived impediments and 2) satisfactions.

This analysis was performed with three sections of the survey questionnaire. First, students were asked to rate areas, using a four part Likert scale (1= none to 4= very much), as to the amount of impediment each imposed. Secondly, students responded using a five part Likert scale (1= strongly disagree to 5= strongly agree) to questions that described their experiences at the university. Lastly, students recorded the number of weekly hours spent on various activities. Summing across groups of items, three scales were designed to measure the following: 1) personal circumstances, 2) university actions, and 3) financial obstacles. The items used in these scales are detailed in the Appendix. A fourth obstacle scale, designed to assess obligations not directly related to the university, was derived by summing the number of reported weekly hours spent in employment, family-related responsibilities and travel. Also included as an obstacle was the difficulty of classwork which was analyzed by a single item.

There were three summed scales measuring satisfaction with 1) personal growth, 2) faculty interactions, and 3) fellow-student interactions. Individual questions utilized in each of the scales and their respective internal reliabilities (Cronbach's alpha) are reported in the Appendix.

Accomplishments

Two sections of the questionnaire were used to investigate academic accomplishments. From the section requesting students to check all that applied from a list of selections indicating scholarly accomplishments achieved as an outgrowth of graduate studies, variables representing the number of self-reported occurrences of accomplishments, professional papers/proposals authored or co-authored, and occurrences of college teaching were constructed. Two additional variables were computed as a sum of the weekly hours reported spent in 1) scholarly activities and 2) RA and/or TA responsibilities. All items comprising these scales and variables are presented in the Appendix.

Analyses

The dependent variable in the analyses was a dichotomous variable representing age cohort: Women younger than 35 years and those 35 years or older. The range of ages for the younger group was 22 to 34 years while the age range of the older group was 35 to 60 years. The data was analyzed using multivariate analysis of variance (MANOVA) procedures to determine how the older and younger female doctoral students differed in the three areas of study (institutional choice, retention enhancement, and professional accomplishments). The MANOVA procedure was chosen to allow all of the tests of the dependent variables to be simultaneously computed thus including the consideration of interrelation among the dependent variables[1].

Results

Institutional Choice

The results of the MANOVA are presented in Table 1. The Wilks multivariate test was significant (Wilks Lambda = .9022; $F = 3.982$; $p < .0001$) indicating older women chose an institution differently than younger female doctoral students. Univariate tests revealed significant differences on four of the seven variables. Specifically more important to the older female student than to the younger are the institution's ability to provide a desired credential, its location, the availability of a special degree program, and lower tuition rates.

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1 Because 51.8% of the older female doctoral students in this study were enrolled part time (as compared with only 20.8% of the younger cohort), a 2 x 2 MANOVA, older/younger and full time/part time, was originally utilized to examine possible interactive effects as a function of enrollment status. Only the institutional choice variables exhibited a significant multivariate interaction (Wilks $F = .94101$ $p = .027$). A check of the univariate F-tests revealed that significant interactive effects only occurred for the "availability of internship" variable ($F = 7.219$ $p = .008$). Two Tukey/Kramer post hoc tests were performed to determine if significant differences exist between 1) younger and older part time students and 2) younger and older full time students. The test between the means of the younger (1.680) and older (1.259) part time students showed significant differences ($Q = 3.174$ $p < .05$) indicating that the availability of internships were more important to the younger women. The test between the means of the younger (1.476) and older (1.671) full time students was not significant ($Q = 2.090$ $p > .05$). Since the focus of this study is on the age of the female student and there being no other interactive effects found as a function of enrollment status, no further examination of the variable enrollment status was undertaken.

Insert Table 1 about here

Retention Enhancement

The multivariate analysis of variance found significant differences between the two groups in the two areas of retention enhancement (obstacles and satisfactions) (Wilks Lambda =.8983; F=3.48; p=.001). Univariate tests revealed significant differences in two criteria, personal circumstances and the time spent on non-university activities (older women having higher means in both instances). All of the univariate tests on the measures of perceived satisfaction with the graduate experience were non-significant ($p > .01$).

Interestingly, the magnitude of means derived from the non-university hours construct (sum of weekly hours devoted to non-university employment, family responsibilities, and travel to and from the college revealed a wide disparity between the two student groups. As seen in Table 2, older students report spending 158% more hours in non-university related activities than the younger cohort.

Insert Table 2 about here

Accomplishments

The test for multivariate differences between the groups on reported achievements and hours spent on specific activities was significant (Wilks Lambda=.9111; F=5.88; $P < .0001$). Table 3 gives the means and standard deviation for the accomplishment variables. However, significant univariate differences were found for only the time spent in scholarly activities and the number of hours spent in research and/or teaching assistantship duties with higher scores for the younger women in both areas.

Insert Table 3 about here

Discussion

Institutional Choice

Although location is an important aspect of choice for both groups, this study found it significantly more important for the older woman. Older women are typically not in a position to be able to move to a location close to the university. Further, because a sizeable portion of the older students are pursuing their education on a part time basis (51.8% of this sample), they must attend an institution that is accessible to both home and employment. Further, as established by this study, many older women are additionally constrained by family responsibilities.

Both the importance of credentialing and the availability of a special degree program are significantly more important for the older woman's choice of a doctoral granting institution. These job and/or career oriented motives are consistent with the literature as being a major determinant of the choice of institution (Baird and Smart, 1991). Many older women are either long time members of the workforce or are returning to school following full-time homemaking responsibilities. In either case, these women have realistic views and desire a degree program and/or credential that will provide advancement within their present profession or prepare them for a new one. These realistic expectations may also be tied to the unstable economic situation. Perhaps economic concerns have overshadowed the pure intrinsic interest of learning?

In terms of financial considerations, the cost of tuition for doctoral study emerged as an important part of the choice of institution for the older cohort. Because a good proportion of the older students have built up some equity and/or are gainfully employed, they may indeed be ineligible for financial assistance. Bank accounts, originally designed to finance children's education or to cushion the retirement years, as well as real estate holdings may disqualify the "over 35" student from financial aid. Therefore, since many older students anticipate paying the cost of their education, the cost of tuition is even more important in their institutional choice than for their younger counterparts.

Retention Enhancers

This study's results support the body of evidence that indicates older female students do not have more difficulty with the coursework than their traditionally aged counterparts. Furthermore, except for the increased impediments imposed by personal circumstances and outside time constraints, there is very little difference in the obstacles reported by the older women.

This research clearly indicates that the paramount obstacles for older female doctoral students are personal time constraints and responsibilities. It appears, therefore, that the main obstacles are external to the university. However, as the percentage of older students grows, these personal obstacles emerge as vital limitations to their enrollment in doctoral programs and to retention.

Accomplishments

Younger female doctoral students report spending considerably more hours related to a research and/or teaching assistantship as compared to the older women. This difference is not surprising since 80.3% of this study's younger group reported ever holding either a research or teaching assistantship during their graduate study as compared to 47.8% of the older counterparts. Older female doctoral students are apparently less likely to utilize sources of funding that require involvement in departmental or program activities beyond coursework. This finding is certainly expected because students who already are experiencing overload due to employment and family responsibilities would not be interested or able to pursue another obligation.

Older female doctoral students clearly spend significantly less time involved in scholarly activities. Although these findings are consistent with the additional time crunches and responsibilities reported by these students, the lack of scholarly activities by this important segment of doctoral students is problematic from the viewpoint of retention. Without the exposure to independent research and interactions with faculty outside class, these students will likely experience more difficulty with the dissertation. It has been shown that a lack of scholarly activity can also limit important mentoring relationships (Solomon, 1976).

Policy Implications

This study was limited to the study of female doctoral students in two age categories at one university. As with all institution specific studies, it cannot be said with certainty that the results apply to other colleges and universities. However, these results may have important implications for policy at the host university and other comparable Research I institutions, particularly urban public research institutions.

Due to the dwindling pool of traditionally aged students, a national economic situation that discourages contiguous post-graduate enrollment (Baird 1990), plus the prediction of increased interest in graduate studies by women over the traditional graduate student age (U.S. Bureau of the Census); policy designed to attract and subsequently retain older female students is highly desirable. This study indicated that a convenient location is a strong factor in the choice of institution for all female doctoral students, particularly the older cohort. Obviously, universities cannot physically move their buildings, but they may consider distance learning techniques such as satellite classrooms, instruction via modem, or lectures on videocassette. When the location of the university is problematic, the reduction of the number of physical class meetings in tandem with one of the distance learning methods may provide an answer. The location of the university may become less prominent with conveniently timed instruction. The addition of weekend progarams may eliminate the procedure that many employed graduate students have been forced to perform: a frantic exit from the workplace followed by a battle with rush-hour traffic to conclude with the arrival to the typical evening graduate level course. Policy designed to either enhance student convenience or reduce unnecessary commuting time provides positive recruitment and retention implications for everyone.

During the present ambiguous economic conditions it is not surprising that this study finds older students seeking institutions with low tuition rates. Admission and academic advisers should be aware that older students, like their younger counterparts, may not be familiar with the sources of financial aid and/or may be hesitant to request it.

Because both the doctoral student and the university share the goal of student persistence until the degree is granted, attention to the obstacles of the older female doctoral student may enhance retention of this group. One recommendation to alleviate family obligations is the establishment or extension of university affiliated child care services to include evenings and weekends. These extra hours would permit parents to spend the necessary time at the university library or meeting in study groups.

A second recommendation for alleviating family obligations is a greater dependence on electronic forms of meetings. Telephone conferences, fax document distribution, and communications via electronic mail could be substituted for some of the meetings between the doctoral student and her committee, faculty members, and advisor when circumstances preclude physical office visits.

Previous research has found that students who successfully complete the doctorate generally (1) are assistantship or fellowship recipients, (2) study full time, (3) frequently interact with faculty, and (4) experience positive mentoring experiences (Dolph, 1983). All of these activities are limited for students who are financially and/or time restrained.

As succinctly recorded in the following quote, the attracting and retaining qualities of assistantships and fellowships should not be underestimated.

> The type of financial support received is also related to involvement for doctoral students. Those students employed as teaching or research assistants and/or fellows were more likely to become involved in their graduate programs and to earn doctorates. Graduate assistants become part of the teaching or research team within the department. Working closely with faculty, these students are likely to become socialized and to become socialized faster. They spend most of their time in the department, resulting in the opportunity for more informal contacts with faculty. Not surprisingly, students employed outside the university were less likely to become involved." (Girves & Wemmerus 1988; p. 185).

The availability of part-time assistantships (part time tuition waivers in exchange for part-time assistantship responsibilities) may also be instrumental in recruiting and retaining "time crunched" older students. Because many older women return to school on a part-time basis, the availability of part-time assistantships could provide financial relief, while providing

additional scholarly involvement. The financial rewards of the part-time assistantship may eliminate the need for part-time employment elsewhere thus allowing the student to better focus on degree completion.

In sum, given the changing demographics and predictions that older students will comprise a significant proportion of the student population, administrators are advised to be open to policy modifications directed at attracting and retaining the over 35 "non-traditional" female student.

Appendix

Items Used in Construction of Scales

Institutional Choice

CREDENTIALING (Alpha = .8931)
Indicate how important each of the following were in your decision to attend graduate school:

Upgrade credentials to advance within present job
Upgrade credentials for present job

REPUTATION (Alpha = .6013)
Indicate how important each of the following were in your decision to attend this university:

Reputation of the university
Reputation of graduate programs at the university
Recommendation of current or former students
Work with a particular faculty member

Retention Enhancers (Obstacles)

PERSONAL OBSTACLES (Alpha = .7022)
Rate the following in terms of how much each is an impediment to your completion of your graduate program.

Time demands
Job responsibilities
Marriage/family responsibilities

UNIVERSITY ACTIONS (Alpha = .6960)
Rate the following impediments to your completion of the graduate program:

Bureaucratic redtape
Concern by faculty
Concern by administration

FINANCIAL (Alpha = .6281)
Rate the following impediments to your completion of the graduate program:

Financial obligations
Financial support

NON-UNIVERSITY HOURS (used as a count)
Hours spent in each of the following:

Non-university employment
Family responsibilities
Travel to and from UIC

Retention Enhancers (Satisfactions)

GROWTH (Alpha = .7405)

I'm satisfied with my academic experiences in the department.
I feel I've been given an opportunity to show what I can do.
I'm dissatisfied with my intellectual development since enrolling in this department.
Nonclassroom interactions with faculty have had a positive influence on my intellectual growth.
Most of my courses have lacked intellectual stimulation.

FACULTY INTERACTIONS (Alpha = .7252)

Nonclassroom interactions with faculty have had a positive influence on my personal growth.
Nonclassroom interactions with faculty have had a positive influence on my career goals and aspirations.
I've had little opportunity to develop a mentoring relationship with a faculty member.*

FELLOW STUDENT INTERACTIONS (Alpha = .5294)

I've frequently met informally with other graduate students in study groups.
I've not developed close personal relationships with other graduate students.*

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* Indicates questions that were recoded to a positive equivalent.

Accomplishments

SCHOLARLY ACTIVITIES (used as a count)
About how many hours in a typical week do you devote to each of the following?

Studying
Hours in class or required labs
Research/scholarly activities with faculty
Independent research or scholarly activities
Interactions with faculty outside class

RA/TA (used as a count)

Hours spent in RA responsibilities
Hours spent in TA responsibilities

ARTISTIC (used as a count)
Which of the following have you accomplished as an outgrowth of your graduate studies?

(Co) author fictional piece
Produce/direct film/video/play
Show self-created work
Enter literary or scientific competition

PAPERS/PROPOSALS (used as a count)
Used as a count only

Assisted in editing the text or preparation of bibliographic materials for a book or research proposal
(Co) authored a paper accepted for publication in a scholarly or professional journal.
(Co) authored a paper presented at a scholarly or professional society meeting.
(Co) authored a paper submitted for publication in a scholarly or professional journal.
(Co) authored a proposal for a research project.

COLLEGE TEACHING (used as a count)

Assisted another student or faculty member in teaching a course in your department.
Independently taught a course in your department.

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Table 1

Means, Standard Deviations (in parenthesis), Reliability Coefficients, and Measures of Significance of Scales and Variables reflecting Institutional Choice

$N_{younger} = 109$ $N_{older} = 158$

Scale/Variable	# of items	Younger Women	Older Women	F	Alpha
Scale					
Credentialing	2	3.667 (2.146)	4.715 (2.393)	4.78350*	.8931
Reputation	4	8.450 (2.655)	9.157 (2.884)	1.99108	.6013
Individual Questions					
Location		3.018 (1.128)	3.463 (0.850)	5.12194*	
Availability of Special Degree Program		2.703 (1.149)	3.309 (0.999)	11.73611***	
Internship Opportunities		1.514 (0.872)	1.457 (0.812)	0.97216	
Lower Tuition		2.180 (1.215)	2.858 (1.130)	10.85705***	
Availability of Financial Assistance		2.856 (1.212)	2.333 (1.261)	1.87314	

* p<.05 ** p<.01 *** p<.001

Table 2

Means, Standard Deviations (in parenthesis), Reliability Coefficients, and Measures of Significance of Scales and Variables reflecting Retention Enhancement Constructs

$N_{younger} = 103$ $N_{older} = 154$

Scale/Variable	# of items	Younger Women	Older Women	F	Alpha
Potential Obstacles					
Personal Circumstances	3	6.821 (2.283)	8.732 (2.511)	17.40594***	.7022
University Actions	3	6.625 (2.239)	6.494 (1.839)	0.05248	.6960
Financial	2	4.134 (1.722)	4.321 (1.839)	1.55270	.6281
Non-university hours	3	26.016	41.236	5.22236*	
Difficulty of Coursework		1.586 (0.847)	1.485 (0.640)	0.52139	
Satisfaction					
Growth	5	18.207 (3.990)	19.360 (3.358)	1.77879	.7405
Faculty Interactions	3	10.474 (3.006)	10.466 (3.358)	0.07551	.7252
Fellow Student Interactions	2	6.750 (2.206)	6.416 (2.224)	0.82840	.5294

* $p<.05$ ** $p<.01$ *** $p<.001$

Table 3

Means, Standard Deviations (in parenthesis), and Measures of Significance of Scales and Variables reflecting Accomplishments

$N_{younger} = 120$ $N_{older} = 189$

Scales	# of items	Younger Women	Older Women	F
Artistic	4	0.325 (0.565)	0.199 (0.484)	2.68855
Papers/Proposals	5	1.317 (1.478)	1.267 (1.510)	0.05884
College Teaching	2	0.675 (0.730)	0.539 (0.686)	0.52916
Scholarly Activities	5	37.431 (22.564)	24.005 (16.143)	18.52231***
RA/TA Hours	2	10.423 (13.869)	5.147 (8.827)	6.10700*

* $p<.05$ ** $p<.01$ *** $p<.001$